

ABSTRACT OF THE DISCLOSURE

An energy-absorbing padding includes multiple stacked base layers, each of which includes a plurality of projecting, hollow, hemispherical or dome-shaped impact-absorbing elements defining respective convex impact surfaces. The elements of a first base layer, which either project in a direction opposite those of at least one other base layer or project in the same direction in a nested relationship, provide a staged response characteristic in which the first elements of a first base layer accommodate initial and off-axis occupant impacts, while the elements of the at least one other layers provide additional stiffness and energy absorption capability subsequent to at least a partial collapse of the first elements. The wall thickness of the elements may advantageously vary, for example, as a function of distance from the base layer, while a plurality of strengthening ribs may advantageously further serve to enhance the energy absorption capacity of the elements.